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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/595,205

03/23/2006

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EXAMINER

EVANS, GEOFFREY S

ART UNIT

PAPER NUMBER

3742

MAIL DATE

DELIVERY MODE

08/07/2008

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No. 10/595,205	Applicant(s) RIPPL ET AL.	
	Examiner Geoffrey S. Evans	Art Unit 3742	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. ____. |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>20060327, 20060831</u> . | 6) <input type="checkbox"/> Other: ____. |

DETAILED ACTION

1. Claims 1-14 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention. In claim 1 the language “during welding or cutting, guiding the emitted laser beam along a welding path” is unclear. It is not understood why during cutting one would guide the laser beam along a welding path. In claim 10 the meaning of “rigid-angle” is unclear. In claim 13 the phrase “velocity of welding or cutting is adjusted during welding” is unclear. Respectfully suggest deleting “during welding” to obviate this rejection.

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

4. Claims 1,3,5-11,15, and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bannister in U.S. Patent No. 4,626,999 in view of Mangiarino et al. in U.S. Patent Application Publication No. 2002/0104834 and Faitel in U.S. Patent Application Publication No. 2002/0170889. Bannister discloses a multiaxis laser robot whose last few axes can be moved for scanning along 3 axes (see column 2, lines 57-66) for laser machining. Mangiarino et al. teaches remote laser seam welding of motor vehicle bodies by using a mirror that is movable along multiple axes. Faitel teaches adjusting a lens (element 42) so that laser welding can occur at various angles by suitable adjustment by a mirror (element 40). It would have been obvious to adapt Bannister in view of Mangiarino et al. and Faitel to provide this to use the last mirror of a robot to laser seam weld along a path or paths. Regarding claim 3, as a matter of common sense one would not move the axes that are not required to laser weld the workpieces in the desired locations in order to save energy. Regarding claim 11, it would be within the level of ordinary skill in the art to experimentally determine the proper focal length of the laser beam exiting the laser head. Clearly by using a long focal length the laser beam is focused over a larger range as compared to a short focal length

5. Claims 2,16,17 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bannister in view of Mangiarino et al and Faitel as applied to claim 1 above, and further in view of Hario et al. in Japan Patent No. 1-197,092, published August 1989. Hario et al. as shown in figure 4 discloses an optical fiber (element 2) that is held by a robot but offset from the laser hand axis of the laser beam by an extension

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arm (element 1). It would have been obvious to adapt Bannister in view of Mangiarino et al., Faitel and Hario et al. to provide this to deliver the laser beam to the workpiece while protecting the robot. Regarding claim 17, it would be a matter of common sense to not move axes that are not required to move the laser beam along the welding path so that energy is conserved.

6. Claims 4 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bannister in view of Mangiarino et al. and Faitel as applied to claims 1 and 15 above, and further in view of Ishida et al. in Japan Patent No. 63-108,979, published May 1988. Ishida et al. teaches laser welding along a path of the exterior of a shell. It would have been obvious to adapt Bannister in view of Mangiarino et al., Faitel and Ishida et al. to provide this to weld a fuel tank together.

7. Claims 12-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bannister in view of Mangiarino et al. and Faitel as applied to claim 1 above, and further in view of Hamada et al. in WO 2004020140 A1, published 11 March 2004. Hamada et al. teaches a lens with a focal length of 833 mm adjusting the laser output as a function of the angle of the laser beam and adjusting the velocity or speed. It would have been obvious to adapt Bannister in view of Mangiarino et al. Faitel and Hamada et al. to provide this to keep the welding conditions largely constant. When a large angle is present the path length of the laser beam greatly increases, causing the need for the laser power to be increased to compensate for the divergence of the laser beam and the increase of the beam spot size on the workpiece.

8. Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over Bannister in view of Mangiarino et al. and Faitel as applied to claim 1 above, and further in view of Takahashi in Japan Patent No. 10-58,179. Takahashi teaches using a zoom lens to adjust the focus of a laser beam. It would have been obvious to adapt Bannister in view of Mangiarino et al. and Faitel, and Takahashi to provide this as a functionally equivalent method of adjusting the laser focus.

9. Applicant cannot rely upon the foreign priority papers to overcome this rejection using Hamada et al. because a translation of said papers has not been made of record in accordance with 37 CFR 1.55. See MPEP § 201.15.

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Okuda et al. in U.S. Patent Application Publication No. 2004/02067356 discloses adjusting the velocity of the laser beam (see figure 3) during welding. Heineken et al. in U.S. Patent No. 4,731,254 has a lens with a focal length of 500 mm (see column 4, line 65). Makase et al. in U.S. Patent Application Publication No. 2006/0163221 discloses a laser beam with a focal length of 600 to 1000 mm (see paragraph 15). Grudic et al. in U.S. Patent No. 4,941,739 discloses using a single mirror to scan a beam along two axes. Hamada et al. in U.S. Patent Application Publication No. 2007/0062919 discloses a focal length of a lens of 833 mm (see paragraph 54), and is of the same patent family as WO 2004020140.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Geoffrey S. Evans whose telephone number is (571)-

272-1174. The examiner can normally be reached on Mon-Fri 7:00AM to 3:30 PM (flexible).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tu Hoang can be reached on (571)-272-4780. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Geoffrey S Evans/

Primary Examiner, Art Unit 3742